We Claim:

1.

A carburetor for a combustion engine comprising:

a body;

a fuel-and-air mixing passage communicating through the body, the fuel-and-air mixing passage having an upstream region, a downstream region and a venturi region disposed between the upstream and downstream regions;

a choke valve operatively in the upstream region of the mixing passage;

a fuel chamber carried by the body; and

a dual fuel feed system having:

a primary fuel feed passage carried in-part by the body and communicating between the venturi region and the fuel chamber for flowing fuel into the venturi region for mixing with air flowing past the choke valve and through the venturi region when the engine is operating at above idle speed conditions, and

a separate supplemental fuel channel carried in-part by the body and communicating between the upstream region and the fuel chamber supplying fuel into the upstream region for mixing passage for mixing with air flowing through the mixing passage when the engine is operating only at high power conditions.

2.

The carburetor set forth in claim 1 comprising a check valve yieldingly biased toward a closed position and constructed and arranged to close to prevent fuel flow through the supplemental fuel channel when the engine is operating at low power conditions.

3.

The carburetor set forth in claim 1 comprising a fuel float bowl engaged to the body and in-part defining the fuel chamber.

4.

The carburetor set forth in claim 1 wherein the fuel chamber is normally at atmospheric pressure.

5.

The carburetor set forth in claim 2 comprising:

a nozzle projecting into the upstream region;

wherein the nozzle in-part carries the supplemental fuel channel; and

an air bleed communicating with the fuel channel and disposed between the nozzle and the check valve for delaying supplemental fuel flow into the upstream region and for introducing air into the supplemental fuel to promote mixing with additional air slowly through the mixing passage.

6.

The carburetor set forth in claim 5 wherein the nozzle is disposed upstream of the choke valve.

7.

The carburetor set forth in claim 6 wherein the nozzle is sloped and has a back side for directing air flow around the nozzle creating a localized vacuum condition in the nozzle.

8.

The carburetor set forth in claim 2 wherein the fuel channel is carried in-part by a tube projecting downward into the fuel chamber from the body.

9.

The carburetor set forth in claim 2 comprising:

a compartment portion of the fuel channel communicating directly with the nozzle;

a lid engaged sealably to the body; and

wherein the compartment is defined between the body and the lid.

10.

The carburetor set forth in claim 9 comprising an air bleed extending through the lid and communicating between the compartment portion and atmosphere.

11.

The carburetor set forth in claim 10 wherein the air bleed is openly connected between the nozzle and the check valve.

12.

The carburetor set forth in claim 9 comprising:

a bore portion of the fuel channel defined by the body and communicating between the compartment portion and a tubular portion defined by the tube; and

wherein the check valve is orientated in the bore portion.

13.

The carburetor set forth in claim 2 wherein the check valve has a ball yieldingly biased against an annular seat carried by the body.

14.

The carburetor set forth in claim 12 wherein the check valve has a ball yieldingly biased against an annular seat carried by the body.

15.

The carburetor set forth in claim 14 comprising a spring of the check valve disposed above the ball within the bore portion and being in contact with the ball to bias the check valve in the closed position.

16.

The carburetor set forth in claim 14 comprising:

an upper section of the bore portion communicating directly with the compartment portion;

a lower section of the bore portion disposed concentrically to the upper section and having a diameter which is less than the upper section; and

wherein the annular seat is disposed between the upper and lower sections and is defined radially by the difference in diameters of the upper and lower sections.

17.

The carburetor set forth in claim 5 comprising a fuel flow restrictor orientated in the nozzle.

18.

A dual fuel feed system of a carburetor having a body, a fuel-and-air mixing passage communicating through the body for supplying a mixture of fuel-and-air to a combustion engine, a choke valve operatively in an upstream region of the mixing passage for controlling air flow through the mixing passage during cold starting of the engine, a throttle valve operatively in a downstream region of the mixing passage for controlling engine power by controlling the amount of fuel-and-air mixture entering the engine, a venturi region of the mixing passage disposed between the upstream and downstream regions, and a fuel chamber carried by the body for supplying fuel to the mixing passage, the dual fuel feed system comprising:

a primary fuel feed passage carried at least in-part by the body and communicating between the venturi region and the fuel chamber for flowing fuel into the venturi region for mixing with air flowing past the choke valve and through the venturi region when the engine is operating at above idle speed conditions; and

a supplemental fuel channel carried in-part by the body, and communicating between the upstream region and the fuel chamber supplying fuel into the upstream region for

mixing with air flowing through the mixing passage when the engine is operating only at high power conditions.

19.

The dual fuel feed system set forth in claim 18 comprising a check valve disposed in the fuel channel and yieldingly biased to a closed position for preventing fuel flow from the fuel chamber and into the upstream region during low engine power operating conditions and which opens via a vacuum created in the upstream region during high power operating conditions.

20.

The dual fuel feed system set forth in claim 18 comprising a nozzle projecting transversely into the upstream region and disposed adjacent to an inlet of the mixing passage in a sub-atmospheric pressure area caused by a change in direction of incoming air flow.

21.

The dual fuel feed system set forth in claim 18 comprising an air bleed communicating between the fuel channel and atmosphere for entraining air in the flowing supplemental fuel within the fuel channel.

22.

The carburetor set forth in claim 1 wherein no supply of fuel flows through the supplemental fuel channel when the engine is operating at less than fifty percent of maximum operating power.

23.

The carburetor set forth in claim 22 wherein the supplemental fuel channel supplies not more than twenty percent of the total fuel flow.

24.

The carburetor set forth in claim 1 wherein the supplemental fuel channel supplies not more than ten percent of the total fuel flow.

25.

The carburetor set forth in claim 1 wherein the supplemental fuel channel supplies between four to eight percent of total fuel flow at engine operating conditions in excess of fifty percent power.